

[54] **METHOD OF COVALENTLY BINDING BIOLOGICALLY ACTIVE ORGANIC SUBSTANCES TO POLYMERIC SUBSTANCES**

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[58] **Field of Search** **435/174, 176, 178, 179, 435/180, 181, 182**

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,959,079 5/1976 Mareschi et al. 435/179
3,969,287 7/1976 Jaworek et al. 435/181 X

OTHER PUBLICATIONS

Weliky et al., The Chemistry and Use of Cellulose De-

rivatives for the Study of Biological Systems, Immunochimistry, vol. 2, 1965 (pp. 293-312).

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[57] ABSTRACT

The invention relates to a method of coupling organic ligands to a polymeric carrier. The organic ligand contains at least one primary or secondary amino group, at least one thiol group and/or at least one aromatic hydroxy group, and the polymeric carrier contains at least one hydroxy group. According to the invention the coupling is performed by forming a reactive derivative of the polymeric carrier by treatment with a sulfonyl halogenid, and reacting the formed reactive derivative with the organic ligand, which is thereby bonded directly to a carbon atom in the polymeric carrier. The polymeric carrier can, for example, be a possibly cross-linked polysaccharide, and the organic ligand is preferably a biological material such as a protein. The coupling product can, for example, be used for immunologic determinations, for affinity chromatography, etc. The coupling method can be performed under mild conditions not damaging sensitive organic ligands.

13 Claims, No Drawings